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March 30, 2011

M/T THEO T
ONGOING ENVIRONNEMENTAL AUDIT
CRISTOBEL, PANAMA
MARCH 13 - 16, 2011

Preliminary

The undersigned conducted an Ongoing Environmental Audit aboard the M/T Theo T, while the vessel was at anchor off Cristobal, Panama and underway. Upon the suggestion of the Superintendant, the vessel got underway from the Cristobel Outer Anchorage so the OWS could be operated while the vessel was underway. The vessel was underway for a total of 4.75 hours during this operation. Portions of the audit were also conducted, while the vessel was transiting the Panama Canal.

The Theo T is a 73,021 DWT, double hull crude oil and product oil carrier, built in Samsung Shipyard, Koje Island, South Korea and delivered on August 7, 2003. The vessel has twelve cargo tanks with a total capacity of 81,618 m3. The vessel is powered by a B&W six cylinder main engine. Complete vessel particulars are attached.

Audit participants included:

Ioannis Mastrodimas, Master
Filippo Nakos, Chief Engineer
Lemwel Gapasinao. Chief Officer
Allan Flores, Second Engineer
Aguedo Tabangay, Third Engineer
Andresito Hontanosas, Fourth Engineer
Nicolae Budu, Electrician
Rogelio Sumilang, Pumpman

In addition to the above, Capt Aristeidis Dimou, Superintendent for the company, assisted with the audit. He arrived onboard the vessel on 13 March 2011. Also, various crewmembers from all departments were interviewed at different times with regard to their duties related to environmental aspects of ship operation and awareness.

The schedule of the initial audit was as follows:

March 13, 2011
1445 Arrive aboard vessel, anchored off Cristobel Outer Anchorage

1450-1500	Met with Captain. Set up meeting with senior officers
1530-1545	Opening Meeting with Master, Chief Officer (C/O), Chief Engineer (C/E), and Second Engineer (2/E), and Chief Cook.
1545-1900	Engine Room inspection including review of enviro-logger and printout, incinerator, testing of OWS three way valve and alarm, inspection of seals, MSD, operation of incinerator on diesel.
1900-1930	Dinner with Master, and C/E; discussions about audit
1930-2030	Review of EMS
2030	Retire for evening.

March 14, 2011

0800-0830	Breakfast; met with Superintendent
0830-0930	Met w/ C/O and conducted deck walk including inspection of cargo pump room, bosun store, on deck garbage storage and SOPEP locker
0930-1000	C/O conducted test of ODME
1000-1100	Reviewed Ballast Water management plan (BWMP), Ballast water reports, Ballast water log, Garbage Management Plan (GMP), Garbage Record Book (GRB),
1100-1150	In engine room; observed starting of Incinerator.
1136	U/W from anchorage
1150-1220	Lunch
1220-1545	In engine room. Observed operation of OWS and reviewed critical pollution prevention spare parts; inspected steering gear room.
1545-1900	Reviewed ORB and sounding log.
1615	Vessel anchored back at Cristobel Outer Anchorage
1900-1930	Dinner
1930-2030	Reviewed BWMP, GMP and handover notes.
2030	Retire for evening

March 15, 2011

0745- 830	In engine room to observe daily tank sounding; found out it is done at 0700; observed incinerator being shut down.
0830-0900	Breakfast.
0900-1130	In engine room; observed sounding of the sludge tanks and compared this to SWOMS; observed testing of the OCM using the test fluid; inspected engine room.
1130 -1200	Lunch
1200 -1700	Reviewed handover notes, ENV 011, tank sounding log, familiarization forms, shore side training, shipboard training, Master Environmental Review, Environmental Compliance sign off forms, seal logs, weekly report, ORB and Vessel General Permit paperwork and inspections.
1700 -1900	In engine room. Observed sounding of sludge tanks and compared this to SWOMS. Spoke with Oiler about daily soundings; reviewed calibration certificate for SWOMS.
1900-1930	Dinner.
1930 -2030	Reviewed flexible hose inventory documents and other EMS documents.
2030	Retire for evening

March 16, 2011

0300	Underway from Cristobel Outer Anchorage to Panama Canal
0550	Vessel entered Gatun lock (Panama Canal)
0600-0800	Conducted deck walk and observed canal operations
0736	Vessel Anchored in Gatun Anchorage
0800-0830	Breakfast
0830-1030	In engine room; observed sounding of the sludge tanks and compared this to SWOMS. Spoke with C/E about daily tank sounding; reviewed fuel oil tank piping diagram to look at Fuel Oil Overflow Tank which is on the IOPP as a sludge tank.
1030-1130	Reviewed Cargo record book and ODME test log; reviewed last internal EMS audit.
1130-1200	Lunch
1300-1400	Conducted debrief of audit with Captain and superintendent.
1400-0800	Reviewed OWS, MSD and Incinerator manual and compared to PMS documentation; reviewed history of inoperative incinerator and entries in PMS and ORB.
1800-1830	Observed sludge tank soundings and compared to SWOMS.
1900-1930	Dinner. Informed launch would pick me up at 2200.
1930-2030	Reviewed older ORBs.
2030-2230	Observed canal transit.
2400	Departed vessel from Balboa Anchorage

The audit was conducted in accordance with Attachment A, Section B of the Special Master Appointment and Scope of Work pursuant to the criminal case, United Sates of America v. Ionia Management S. A., Criminal No.3: CR134 (JBA). The audit process consisted of a review of Safety Management System (SMS) and Environmental Management System (EMS) documents; records and procedures related to environmental matters; MARPOL required logs and records; inspection and testing of vessel waste handling equipment, including the oily water separator (OWS), incinerator, sewage treatment plant (STP); and interviews with vessel personnel.

To implement the EMS, Ionia Management has recently developed an Environmental Management Manual (EMM), which has been placed aboard. The EMM contains environmental policies and procedures in alignment with the Scope of Work, as well as additional environmental procedures, developed by Ionia Management. In addition, environmental procedures are also contained in the vessel's SMS Manual. Ionia Management is also certified for ISO 14001/2004, DNV certificate No. 24257-2008-AE-HRV-RvA, issued on April 08, 2008 with expiry on April 08, 2011.

Overall, I found the environmental procedures and requirements to be well implemented. I found the officers and crew to be very cooperative and positive throughout the audit. Senior officers, including the Master, C/E. and C/O were knowledgeable of the Scope of Work requirements and the EMM appeared fully committed to the purpose and philosophy of the EMM. This was clearly demonstrated throughout my audit and during discussions with these officers. This is the second ongoing audit. The previous ongoing audit on this vessel was conducted on 19-22 February 2010.

Following are my observations and comments. They are supported by the attached EMS Audit Checklist and the enclosures to this report. The observations are separated into two categories, those with recommendations and those without. Many of the recommendations relate to improvement of the existing EMS and do not necessarily reflect deficiencies or non-conformities with the requirements of the Scope of Work. The second category of Observations is primarily included in the audit report to provide an understanding of the functionality of the EMS aboard.

Observations with Recommendations

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1. According to Section 5.19 of the EMS "In the event that the incinerator malfunctions, the company should be notified using the SMS defect report and an entry should be made in the Oil Record Book (ORB), Part I." It appears there were problems with the incinerator starting 12 October 2010 when the prior C/E requested numerous parts for the incinerator (see attached request form). The new C/E reported aboard on 16 October 2010 and on 7 November 2010 he sent a request for spare parts for the incinerator. On the bottom of the form he stated "Note: Incinerator unit inoperative. Condition of primary burner very bad and fan impeller destroyed. The above additional to req 50/10." An entry was not made in the ORB when the C/E discovered this, nor was a SMS defect report sent to the company concerning the inoperative incinerator. The vessel did not receive the incinerator spare parts until 1 February 2011. According to the C/E the incinerator was working for a while and then a few days before Goteborg, Sweden, the milling pump for the incinerator began having problems. This spare part was received on 14 March 2011 and repaired on this day. A satisfactory test of the incinerator on diesel was conducted before on 13 March 11. After the repair to the milling pump, the incinerator burned sludge for a total of 20 hours starting at 1104 on 14 March 2011 and completed the operation at 0711 on 15 March 11. The initial sounding of the Waste Oil Service Tank (WOST) was 0.834 m3 and the final sounding was 0.161 m3. Therefore, the incinerator operated for a total of 20 hours and burned a total of 673 liters or a burn rate of 33.65 l/hr. According to the IOPP the incinerator is rated from 15 to 80 l/hr however, the incinerator manual states it is rated for 40 l/hr. Therefore, the incinerator operated within its rated capacity. It is recommended that when pollution prevention equipment fails, it be logged in the ORB and a SMS defect report be submitted as required by the EMS. See attached.

2. During my review of the Oil Record Book, Part I, I noted the sludge tank weekly retentions were recording all five sludge tanks listed under section 3.3.1 of the Supplement to the IOPP Certificate; however, the Bilge Holding Tank (BHT) retention is not being recorded as recommended by the previous ongoing audit and now required in Section 9.5 of the EMS. It is recommended this be done in the future. See attached.

3. Recently ABS added the FO Overflow Drain Tank to the list of sludge tanks. After talking with C/E it seems this tank is not usually on an IOPP. It appears it was added since it is connected to the sludge pump. There are a few entries in the ORB in which this tank drops in volume with no explanation (for example 27 Feb 11 to 06 Mar 11 in the C.11 entries). I saw in the engine log book that the liquid from this tank was transferred to the HFO settling tank on 02 Mar 11. Since this tank is listed as one of the IOPP sludge tanks, recommend all transfers to and from this tank be entered in the ORB. See attached.

4. The incinerator capacity listed on the Supplement to the IOPP Certificate is 15-80 liters/hour. This appears to reference the pump rate of the sludge pump. Review of the technical data contained in the manufacturer's manual (copy attached) indicates this value is the capacity of the sludge pump and the liquid waste burn capacity is 38 kg/hour and later in the manual it states the capacity is 40 liters/hour. Recommend that the accuracy of the Supplement to the IOPP Certificate be verified by Class during the next occasion of their visit to the vessel. This was identified in the previous ongoing audit and still has not been resolved. It is recommended this be addressed by ABS. See attached.

5. During the previous ongoing audit it was determined non crewmembers had to fill out the Environmental Procedures for Non-Crew Members, Form ENV 022. It was suggested that the form be eliminated and a readily visible notice posted at the gangway, with the watch stander pointing this out to all personnel boarding the vessel. When I came on board the vessel, my identification was checked by the gangway watch and they knew I was the environmental auditor. They did not show me the sign which was created as a result of the earlier audit. It is highly recommended that all gangway watch standers know to show the sign to visitors on board and to have them read the sign before they proceed.

6. The ODME is tested monthly by the C/O and recorded in an ODME Test log (excerpt attached). During the audit, the ODME was tested by the C/O in my presence. Instructions contained in the manufacturer's manual were used to perform the tests, with values for ship speed, PPM, and flow rate manually entered. Due to the vessel being at anchor and also, since a blank flange is installed in the ODME discharge line, an actual discharge test could not be performed. It should be noted that the vessel does not discharge its slop tanks at sea. All slops from ballast and tank cleaning are sent ashore. The ORB Part II verified this. Accordingly, the ODME was tested based on the manual value input. The high PPM and 30 liters/nm exceeded were tested. The C/O was very competent in the ODME operation and knowledgeable of the discharge requirements. The testing of the ODME was not entered into the ORB Part II except for the March 2011 entry. As required by the Scope of Work and Section 9.5 of the EMS, I recommend the monthly testing also be recorded in the ORB. See attached. This was also identified during the previous ongoing audit.

7. Section 5.14.11 states "the vessel must maintain spares for the oily water separator, oil content meter, and its filters in accordance with the list of Minimum Recommended Spares." The spares for the OCM are not listed on the list of minimum recommended spares for this vessel. It is recommended that such spares be added to this list. See attached.

8. While conducting the deck walk it was discovered that the standard oil discharge flanges do not have proper seals on the flanges. The Starboard side flange did not have seals on it. The Port side flanges had broken seals on them. See photos.

9. There are steam lines which are on the high and low sea chest. These flanges could be removed to install a "magic pipe." It is recommended these steam lines have seals installed to ensure they are not used improperly. See photos.

10. Section 5.21. states that "Seals with unique identification numbers shall be placed on the flanges on the vessel's ODME sample lines and flow connections." Some seals have been placed on some of the flanges of the ODME sample line, but not on all of them. Also some of the seals installed are loose and could allow someone to remove the flanges without removing the seal. It is recommended that this be resolved. See photos..

11. A Master's Environmental Review must be conducted with a meeting of the officers on board. It is not clear if a meeting of the officers occurred when the Master's Environmental Review was conducted on 1 March 11. According to Section 8.4.7 of the EMS, "Upon completion of the meeting, minutes shall be compiled and posted in the previously mentioned areas. A copy of the minutes shall be retained onboard and a copy shall be submitted to the company along with the Master's Environmental Management Review report." There were no such minutes found on board the vessel. It is recommended that the minutes of the meeting be recorded and kept on board the vessel.

12. Section 5.16 of the EMS and the Scope of Work both state that the OWS source tank shall be cleaned every 6 months. Section 9.5 of the EMS states that whenever the OWS source tank is cleaned it should be recorded in the ORB. According to the computer PMS system there is a six month requirement which states "Inspection of Bilge Holding Tank through manhole, cleaning if necessary." This requirement does not state the tank has to be cleaned every 6 months as required by the Scope of Work and the EMS. The C/E told me that according to the PMS system, the BHT was cleaned on the following dates: 6 Feb 11, 4 Nov 10, 8 Aug 10 and 6 Mar 10. I reviewed the ORB and there were no entries stating the BHT was cleaned on these dates. On 13 Feb 11 there is an entry in the ORB stating the BHT was inspected, but it does not state it was cleaned. On this date the BHT had 10.066 m3 still in the tank. It is not possible to see the bottom of the tank or to easily clean the entire tank when there is still about a quarter of the tank volume still in the tank. According to the ORB on 4 Nov 10, the last time the BHT was cleaned, the tank volume in the BHT was 8.732 m3. On 8 Aug 10, the BHT had 0.2 m3, so it is possible it was cleaned or inspected but it is not entered in the ORB. It is recommended the BHT be cleaned every 6 months and a record be maintained in the ORB and in the PMS. See attached.

13. The vessel maintains a Sounding Log as required by Section IV and Attachment B to the Scope of Work and Section 13.3 of the EMS. Excerpts of the Log for January, February and part of March 2011 are attached. The remarks section of the sounding log has been returned to the form. When I entered the ECR on my first day I saw that the sounding log was being completed, but there were no signatures for any of the March entries. I took a photocopy of this document. I asked the C/E about this and he told me that the 4/E and 3/O initial the document whenever the page is full. The C/E told me that the 4/E and 3/O do not accompany the oiler every morning when he does the daily manual soundings as required by the Scope of work and the EMS. Furthermore, the oiler is not taking three soundings of each tank to ensure a proper sounding has been conducted as recommended by the previous ongoing audit. Also, the sounding log is just a print out and it is not bound and uniquely numbered allowing for removal of a page and changing

the information. It is recommended this be a bound document. It is also recommended that all of the above be resolved immediately. See attached.

14. As per the Scope of Work and Section 13.3 of the EMS it is preferable to have sample bottles provided by the laboratory on board for taking samples of the BHT, OWS and bilge wells while an external auditor is on board. There were no such sample bottles on board during this audit. It is highly recommended that such sample bottles be retained on board the vessel at all times to allow for taking samples and sending to the laboratory.

15. The vessel is required to conduct quarterly Qualified Individual (QI) Notification drills. The date of the last QI drill according to the records on board the vessel was 12 May 2010. The vessel has been to the USA on a few occasions since that date including Savannah, GA in November 2010. It is recommended the vessel conduct and record the required QI drills on a quarterly basis.

16. The ORB states the OWS coalescer filters were renewed on 13 Feb 2011. The ORB also states the OWS internals were cleaned and washed. Neither of these were entered into the computer PMS. It is recommended that all maintenance performed on the pollution prevention equipment be recorded in the computer PMS.

17. The vessel has a computerized Preventative Maintenance System (PMS) using the Ulysses software. Most of the maintenance requirements for the pollution prevention equipment in the PMS is similar to what is listed in the manuals for the equipment; however, there appears to be maintenance which is being performed which is not being recorded in the PMS system. For example according to the C/E the MSD is being back flushed monthly and there is weekly chemical dosing done. The pH of the MSD is being checked every three months according to the C/E. None of this is being logged in the PMS.

18. During the course of the audit, several seals were broken in the engine room. The Master gave the C/E all of the spare seals without keeping track of which seals were used. It is highly recommended the Master be reminded the unused seals need to be carefully handed out to the C/E so they are not used improperly.

19. The Master's handover notes does not have an inventory of the spare seals on board the vessel. It is recommended this be done.

20. A test of the OWS was conducted while the vessel was underway from the anchorage. The test was begun at 1245. The sounding of the BHT was 0.59 m which equates to 6.37 m3. When the C/E started the OWS he had to keep pressing the fresh water flushing button on the SWOMS. At 1308 the SWOMS stated the OWS overboard valve was opened. According to the SWOMS at 1316 LT the BHT was at 0.51 m or 5.93 m3. At about 1348 the 15-ppm alarm kept going off. The BHT sounding was 0.34 m or 3.375 m3. The total volume of the BHT is 43.3 m3. Therefore the tank was at about 7% of its capacity. The C/E told the 2/E to open the sea water valve to the bilge pump to dilute the fluid going into the OWS. I told the C/E to not do that since it is not how the system should be operated. I asked to C/E why the alarm began going off and he told me that

there is rust in the pipe and this is causing the 15-ppm to go off. This did not make sense to me. There is currently no company policy on the minimum level of the BHT to operate the OWS. It is highly recommended the company enact a policy to not operate the OWS when the BHT drops below 20% of the tank volume. The OWS ran from 1308 to 1348. The difference between the BHT soundings was 2.99 m3 with an hourly rate of 4.48 m3/hr. See attached.

21. The bilge piping diagram does not show the modifications done to the OWS and OCM for the enviro-logger. There does not appear to be any Class approval for these modifications. It is highly recommended class approve these modifications to the system to ensure they are installed properly.

22. There is a fresh water flushing system off of the discharge side of the OWS, which does not have any seals on the flange. It is recommended this system have seals on the flanges. See photos.

23. Pages 48-49 of the incinerator manual are only in German. It is recommended these pages be translated to English or the language of the crew.

24. The ballast water reporting forms were reviewed. It was determined that all forms submitted to the U.S. are not being printed up and signed by the C/O. I asked to see the last Ballast Water Reporting Form for the vessels visit to Savannah, GA on 6 Nov 2010. The C/O could not find it. Eventually the Master found it on his computer, printed it out and signed it. The C/O who prepared the reporting form was no longer on board the vessel. It is recommended that when the forms are submitted electronically it is also printed and signed by the C/O generating the report. See attached.

25. SWOMS data for tank soundings was compared against manual tank soundings. The following table shows the results:

Date & Time: 1807 Panama Time; 3/13/2011							
Tank	Cap. (m3)	Manual (cm)	Manual (m3)	SWOMS (cm)	SWOMS (m3)	Diff. (m3)	% Diff. (m3)
BHT	43.3	55.5	6.51	54	6.35		0.37
SBOT	35.8	165	18.58	161	17.84		2.07
Pur. Sludge	6.6	42	3.64	38	3.32		4.85
WOST	1.89	60	.878	65	.95		3.81

Date & Time: 1400 Panama Time; 3/14/2011							
Tank	Cap. (m3)	Manual (cm)	Manual (m3)	SWOMS (cm)	SWOMS (m3)	Diff. (m3)	% Diff. (m3)
BHT	43.3	34	3.375	32	3.14	.	0.54%
SBOT	35.8	168	19.09	169	19.34	.	0.70%
Pur. Sludge	6.6	43	3.73	43	3.7	.	0.45%
WOST	1.89	52	.761	60	.88		6.30%

Date & Time: 0913 Panama Time; 3/15/2011							
Tank	Cap. (m3)	Manual (cm)	Manual (m3)	SWOMS (cm)	SWOMS (m3)	Diff. (m3)	% Diff. (m3)
BHT	43.3	36	3.64	35	3.47		0.39
SBOT	35.8	171	20.06	161	17.91		6.01
Pur. Sludge	6.6	43	3.73	43	3.7		0.45
WOST	1.89	12	0.18	14	0.19		0.75

Date & Time: 1703 Panama Time; 3/15/2011							
Tank	Cap. (m3)	Manual (cm)	Manual (m3)	SWOMS (cm)	SWOMS (m3)	Diff. (m3)	% Diff. (m3)
BHT	43.3	36	3.65	38	3.93		0.64
SBOT	35.8	172	19.78	166	18.71		2.99
Pur. Sludge	6.6	30	2.58	30	2.55		0.47
WOST	1.89	87	1.23	93	1.36		6.88

Date & Time: 0904 Panama Time; 3/16/2011							
Tank	Cap. (m3)	Manual (cm)	Manual (m3)	SWOMS (cm)	SWOMS (m3)	Diff. (m3)	% Diff. (m3)
BHT	43.3	40	4.21	39	4.04		0.38
SBOT	35.8	172	19.78	173	19.95		0.47
Pur. Sludge	6.6	33	2.84	30	2.59		3.79
WOST	1.89	80	1.17	84	1.23		3.12

Date & Time: 1808 Panama Time; 3/16/2011							
Tank	Cap. (m3)	Manual (cm)	Manual (m3)	SWOMS (cm)	SWOMS (m3)	Diff. (m3)	% Diff. (m3)
BHT	43.3	42	4.6	40	4.27		0.75
SBOT	35.8	174	20.13	144	15.17		13.85
Pur. Sludge	6.6	33	2.84	31	2.67		2.58
WOST	1.89	38	0.32	38	0.32		0

The above soundings were taken by the oiler in my presence. When the soundings were taken the vessel was either at anchor or under way with very little swell, therefore there was minimal movement of the vessel that could skew the soundings. The daily sounding document, ENV 023, is filled out every day and the C/E is calculating the % difference for the morning daily soundings. While I was onboard, the 14 Mar 11 soundings had a difference between the actual soundings and the SWOMS of 8.6% for the Bilge Oil tank. As can be seen above, there were a few occasions when some of the tanks were more than 5% difference. The C/E thinks the difference related to the Oily Bilge tank is related to the fact that the tank is being heated and there is vapor in the tank which is distorting the radar return in the tank. This sounds plausible. It was recommended during the initial audit that "to ensure manual soundings are as accurate as possible, I recommend that the procedure for taking soundings include taking at least three manual soundings each time and recording the average or median value." This

was not done when I was onboard. It is recommended this be adopted. On 4 Feb 2011, the BHT SWOMS level indicator was re-calibrated by a shore technician. See attached.

Observations without Recommendations

1. During the previous ongoing audit the following was identified. Section 1 of the EMM contains Ionia's Environmental Policy, Ethics Policy and Non-Retaliation Policy. Areas specified where the policies are to be posted aboard the vessel include the Master's Office, Chief Engineer's Office, Bridge, CCR, and ECR. To ensure crewmembers have access to the posted polices and are fully aware of their contents, I recommend these polices also be posted in the officer & crew messes and smoking rooms. Attached are copies of the policies. The SMS Quality, Safety, and Environmental Policy, a separate policy from the EMM Environmental Policy, is posted in the crew mess. This has since been corrected.

2. I observed various engine room pumps and machinery in operation during the period of time the vessel was underway, and at anchorage. The engine room was noted to be in an exceptionally clean condition. Minimal lube oil leakages were noted from the main engine. No oil or oily residue was noted in the bilges or bilge wells. The bilge well below the main engine fly wheel was also free of any oily residues. The bilge wells contained only small quantities of relatively clean water. One leak was observed at the Fresh water jacket water cooling three way valve near the fresh water maker. The purifier room was very clean, with no evidence of excessive leakages from the purifiers. Auxiliary diesel engines on line, and fuel oil and lube oil pumps and valves were also noted to be leak free. Attached are photos depicting the condition of the engine room.

3. Similar to the engine room, both the cargo pump room and steering gear room were noted to be exceptionally clean, with no apparent leakages from pumps.

4. A monthly Environmental Performance Report, Form ENV 004, is submitted to the Ionia office on a monthly basis. Included on the form are garbage and hazardous waste disposal quantities. See attached sample report.

5. The vessel is fitted with a sewage treatment plant (STP) made by DVZ, type DVZ-SKA-20, BIOMASTER, with a rated capacity of 3.70m^3 per day. The vessel has no sewage holding tank and all black water is treated with the recommended chemical dosage for discharge overboard. According to the C/E, the STP is in continuous operation, both in port and at sea, with the direct overboard valve kept chained and locked in the closed position, except during short periods of maintenance, while at sea. Accordingly, only treated sewage is discharged. According to the C/E the system is adequate for the complement of the vessel, though the model type indicates capacity for only 20 persons. The present complement during the audit was 25 persons. The vessel, however, is also equipped with a vacuum toilet system, which substantially reduces the amount of black water requiring processing.

6. During the last ongoing audit it was determined most crewmembers were not aware of the anonymous reporting procedures. During this audit all crewmembers interviewed

were aware of the system. Furthermore, signs have since been placed throughout the vessel listing the procedure and the telephone numbers to call.

7. In the previous ongoing audit there was some confusion concerning the use of the Declaration of Environmental Commitment, Form ENV 020. The crew is now properly filling this out before they arrive on board the vessel.

8. During the previous ongoing audit it was determined that the Declaration of Environmental Compliance, Form ENV 021, signed upon sign-off, is only completed by officers aboard. Now all crewmembers are signing this form upon sign-off.

9. During the previous ongoing audit it was determined that in the Ballast Water Management Plan (BWMP), the appendix containing the U.S. ballast water exchange and reporting requirements was outdated. This has since been corrected. I questioned the C/O with regard to his knowledge of the U.S. ballast water requirements and he was fully aware and knew the current requirements.

10. The OWS discharge sample line is now painted orange and the OCM flushing line is now painted blue as required by the EMS. See photos.

11. A flexible hose inventory is kept, with hoses stored in the mid-ship house and forecastle. There are now labels to identify each hose.

12. Vessel personnel are carrying out weekly and quarterly inspections to comply with the requirements of the EPA's recently adopted National Pollutant Discharge Elimination System (NPDES) Vessel General Permit. Attached are completed weekly, quarterly and annual inspection reports. There is now evidence aboard indicating the Notice of Intent (NOI) was filed with the EPA and there is a copy of the EPA letter acknowledging coverage under the VGP. See attached.

13. The Fleet Engineering Survey, Form ENV 015 is being completed by engineering officers within three months of arriving on board the vessel. There are a few minor grammar issues which should be resolved.

14. The capacity of the OWS is 5 m3/hour, which appears more than adequate for the currently generated machinery space effluents. According to the ORB, the last three operations of the OWS were as follows:

03/12/11	6.45 m3 processed	1408 - 1537	4.3 m3/hr
03/11/11	7.39 m3 processed	1056 - 1240	4.2 m3/hr
03/04/11	5.25 m3 processed	1035 - 1526	1.1 m3/hr

The vessel is equipped with a means to transfer E/R bilge water and sludge to cargo slop tanks. Section 3.2.4 of the Supplement to the IOPP Certificate allows this. Currently, the BHT and sludge tanks are periodically transferred to the cargo slop tanks through this approved connection. The cargo slop tanks are subsequently transferred ashore. Both the C/E and the C/O were aware that any machinery space bilge or sludge transfer to the slop tanks must be discharged ashore. ORB Part II entries verify all

machinery waste transferred to the slop tanks is being sent ashore. Corresponding entries for the transfers to the slop tanks are recorded in the ORB Part I and Part II. See attached ORB excerpts.

15. The vessel has a Deckma OCM, model OMD 2005, which conforms with the requirements of MEPC 107(49). The OCM was last calibrated on 27 Oct 10 (copy of certificate attached). The Scope of Work requires recalibration at least annually, with copies of the certificates maintained on board. See attached.

16. Daily checks of the Enviro-Logger are being carried out and recorded on Form ENV 024. See attached samples.

17. The vessel had all the manuals of equipment related to waste stream and type test certificates. Schematic diagrams and pipeline diagrams were on board. Attached is a copy of the bilge piping diagram.

18. The vessel received a USCG expanded Marpol Annex I exam at Sector NY on 31 Jan 2011. The vessel did receive three deficiencies. None of them were related to any pollution prevention systems. See attached.

19. A lab test was done for the samples of the BHT, bilge well and OWS discharge line taken during the last external audit done Feb 2010. I requested the results of the tests and was also given an email from the manufacturer of the OWS stating the results of the test were acceptable. See attached.

20. Ionia has an internal environmental auditing procedure in place. Attached is a copy of the Internal Environmental Audit Report, Form ENV 016, for the audit conducted on 23 Feb 2011. The audit report is very detailed and comprehensive. The internal audit occurred while the C/E was having problems with the incinerator and yet the internal audit mentions that the "incinerator was found in good working condition and a functional test was carried out during audit." This auditor found numerous other deficiencies on board the vessel. The depth of the internal audit should be more extensive. Seven non-conformities or observations were identified and were in the process of being corrected at the time of this audit. The non-conformities were as follows:

    a. Fleet engineering survey form ENV 015 has not been completed for 3rd Engineer. (corrected)
    b. Records for the internal/external audits were found on board with follow up and close out of the internal audit observations/non conformities. The external audits carried out by the independent environmental consultants, although they carry recommendations to be implemented, there is no evidence that the company/vessel followed up and complied with these requirements.
    c. The code of ethics could not be located on board in the designated areas. Moreover interviews with the crew revealed that some were unaware of this booklet. (corrected)
    d. A flexible hose inventory list dated Dec 2010 was found on board. The previous one is dated Dec 2009 although this list should be completed every six months. Furthermore, there was no evidence that the hoses listed in the inventory are

properly tagged with their corresponding tag and purpose of use. At the time of the inspection, the locations of some hoses were also not correct. (corrected)

e. Only one copy of the scope of work was found on board located in the Master's cabin. The additional three stipulated in the EMP were not found on board. (corrected)
f. The form ENV 23 Envirologger checklist is being completed on a daily basis as required. On the monthly data comparison between logger readings and manual soundings there is a discrepancy on the bilge oil tank that exceeds the normal tolerance at some times. The C/E makes a note of it whenever there is such a discrepancy. It has to be noted that he volume discrepancy is very small compared to the total tank capacity.
g. C/E weekly report form ENV 009 shows a negative production of sludges/bilges at some times.

Overall condition of the vessel and waste management equipment is very good. As noted previously, despite the number of Observations with Recommendations noted above, the Scope of Work and EMM requirements are well implemented on board. All the personnel on board cooperated fully during the audit and were sincerely interested and very positive in complying with the environmental procedures.

Respectfully submitted,

Bradford J. Crowley
Auditor

Enclosures:

1. Completed Environmental Checklist
2. Ship's Particulars
3. Crew List
4. IOPP Certificate (4 pages)
5. Supplement to IOPP Certificate (10 pages)
6. Sewage Treatment Plan Manual Excerpt (2 pages)
7. Oil Record Book Part I Excerpt (16 pages)
8. Oil Record Book Part II Excerpts (7 pages)
9. OCM Calibration Certificate dated 27/10/10
10. Enviro-Logger Service Report dated 04/02/11
11. Sounding Log Excerpt (6 pages)
12. ODME Test Record
13. Training Program 2011
14. Training Program 2010
15. Safety Committee Meeting Minutes 27/02/11 (6 pages)
16. Fuel oil system Piping Diagram
17. Bilge Water Piping System
18. Incinerator Technical Data (3 pages)
19. Internal Audit Report dated 23/02/11 and observations (14 pages)
20. NPDES Weekly Inspection dtd 12 Mar 11
21. NPDES Quarterly Inspection dtd 21 Dec 10

22. NPDES Annual Inspection 30 Dec 10
23. Envirologger Checklist – ENV 023 (2 pages)
24. Monthly Environmental Performance Report – ENV 004
25. Chief Engineers Weekly Report - ENV 009 (2 pages)
26. Coast Guard COC dated 13 May 10 (2 pages)
27. Coast Guard Form A and B for Expanded Marpol Exam dtd 31 Jan 11 (2 pages)
28. List of Critical spare parts, Annex to EMS
29. Critical spare parts list from SMS
30. Request form for Incinerator dtd 12 Oct 10
31. Request form for Incinerator dtd 07 Nov 10
32. EMS familiarization form for C/E ENV 18B (2 pages)
33. Garbage Record Book (3 pages)
34. Garbage receipt dated 23 Dec 2010 (2 pages)
35. Ballast Water Reporting form for Savannah, GA dtd 06/11/10 (2 pages)
36. Shoreside EMS training for C/O Lemwel Gapasinao dtd 01 Feb 11
37. Receipt for Slop discharge in Goteborg dtd 22 Feb 11
38. Email from OWS manufacture concerning lab results (2 pages)
39. Photos